William Chargin

git.io/wc • wchargin • wchargin
Computer Science, Cal Poly San Luis Obispo

Please visit my website at git.io/wc for an interactive résumé, and more up-to-date and detailed project descriptions.

Experience

Cal Poly Computer Science Department   **San Luis Obispo, CA**
Instructional Student Assistant, CSC 102   *Fall 2014–present*
- Designed, implemented, tested, and documented a flexible and extensible automated grading system.
- Created grading scheduler, and integrated with cron to create a completely hands-off grading process.

Army High Performance Computing Research Center   **Stanford University**
Student Researcher   *June–August 2014*
- First pre-undergraduate student ever admitted to this research program.
- Developed real-time physics simulations on low-powered portable devices. (See *Projects* below.)
- Received verbal commendation on excellence of research report.

Model United Nations (League of Creative Minds)   **Burlingame, CA**
Head Delegate; Undersecretary-General of Technology and Innovation   *2011–2014*
- Developed a unified debate management system, facilitating timing, voting, speech analysis, etc. (See *Projects* below.)
- Chaired debate committees, and delivered technical and scientific briefings to students.
- Ran technology (mainly AV, networking, communications) for about a dozen conferences over three years.

Selected projects

Real-time portable physics   Java, C++
- At AHPCRC, leveraged extensive existing physics libraries for real-time simulation on Android tablets.
- Simulations: articulated rigid body, cloth, smoke, dynamic paint. Rendering: UV mapped textures, fog.
- Designed novel algorithm to distribute points on a 3D triangulated mesh according to a given density function.
- Designed a system to efficiently (amortized $\mathcal{O}(1)$) simulate arbitrarily complex urban environments.

Advanced computer science curriculum   Java, C, Python
- College-level computer science independent study designed by full-time Microsoft Software Engineer.
- Algorithms and data structures; concurrency; dynamic programming; image edge detection; and more.
- Public repository at github.com/wchargin/apcs; interactive demos therein.

Model United Nations debate moderation system   Java
- Created and deployed an application system that unifies the tools that chairs need to aptly moderate debates.
- Networks across multiple computers to maximize efficiency; separate modes for head chair, director, and rapporteur.
- Used at multiple conferences by dozens of chairs and hundreds of delegates.
- Open source; available at wchargin.github.io/kiosk/.

Selected computer languages and systems

- **Java 6/7 and Eclipse** (expert); **Python 2, 3** (advanced); **C** (proficient); **HTML/CSS** (advanced).
- **LaTeX** (comfortable); **Vim** (love it); **Blender 3D** (advanced); **Git, GitHub** (proficient).

Selected academic honors

University	Honors Program, Cal Poly SLO. Honors Public Speaking: Best Informative Speaker, Best Persuasive Speaker.
Grade 12	Valedictorian. National Merit Scholar. National AP Scholar. California Scholarship Federation Sealbearer. Inter-Departmental Award (inaugural; created for me). Best Mandarin I Student.
Grade 11	Most Outstanding Math and Science Student. Best Junior in Math. Best Junior in Spanish. Best Junior in History.
Model UN	Best Delegate (WEMUN 2011, Beijing). Model Diplomat (LCMMUNC 2013), for leadership in technology.

References available upon request.